

**REMARKS**

In the Office Action mailed September 5, 2006, the Examiner objected to claim 7; rejected claim 1 under 35 U.S.C. § 112, second paragraph for indefiniteness; rejected claims 1-11 and 20 under 35 U.S.C. §101 for utility; rejected claims 1, 12, and 20 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,761,653 to Schiefer et al. (Schiefer) in view of U.S. Patent Application Publication No. US 2004/0034616 to Witkowski et al. (Witkowski); rejected claims 2-9 and 13-15 under 35 U.S.C. §103(a) as unpatentable over Schiefer in view of Witkowski and further in view of U.S. Patent No. 5,918,225 to White et al. (White); and indicated claims 10, 11, and 16-19 would be allowed if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

By this Amendment, Applicants amend claims 2-11 and 13-19 to correct a minor typographical error and amend claims 1 and 7 to more clearly define the features of the present invention.

Applicants appreciate the Examiner's indication that claims 10, 11, and 16-19 would be allowed if rewritten in independent form.

Regarding the objection to claim 7, Applicants submit that amendments to claim 7 obviate the basis for the Examiner's objection.

Regarding to the rejection of claim 1 under 35 U.S.C. §112, second paragraph, Applicants submit that the amendments to claim 1— i.e., “each of the pairs comprising a first partial key and a second partial key” — obviate the basis of the Examiner's rejection. Therefore, the rejection of claim 1 under 35 U.S.C. §112, second paragraph, should be withdrawn.

**Rejection under 35 U.S.C. §101**

The Examiner rejected claims 1-11 and 20 under 35 U.S.C. §101 for lack of patentable utility. Applicants respectfully traverse this rejection.

The Examiner alleges that independent claims 1 and 20 lack patentable utility since “the result is based on the ‘if’ condition in which columns have to have functional dependency in order to lead to the concrete result (i.e., eliminating corresponding columns).” Office Action, p. 3. Applicants disagree. At the outset, Applicants point out to the Examiner that claims 1-11 and 20 do not recite the term “if” as the Examiner appears to suggest in the Office Action. For at least this reason, the rejection of claims 1-11 and 20 under 35 U.S.C. §101 should be withdrawn.

More importantly, Applicants submit that the reasons for the Examiner's rejection, i.e., the “if” condition, has no statutory basis under 35 U.S.C. 101, M.P.E.P 2107, or the PTO's *Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility* (“Interim Guidelines”). Applicants specifically point to the following section in the Interim Guidelines.

**A. Identify and Understand Any Utility and/or Practical Application Asserted for the Invention**

The claimed invention as a whole must be useful and accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.” State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of “real world” value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96 (1966)); *In re Fisher*, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005); *In re Ziegler*, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)).

The applicant is in the best position to explain why an invention is believed useful. Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful. Such a statement will usually explain the purpose of

the invention or how the invention may be used (e.g., a compound is believed to be useful in the treatment of a particular disorder). Regardless of the form of statement of utility, it must enable one ordinarily skilled in the art to understand why the applicant believes the claimed invention is useful. See MPEP § 2107 for utility examination guidelines. An applicant may assert more than one utility and practical application, but only one is necessary.

Interim Guidelines, pages 4-5. Consistent with the Interim Guidelines cited above, Applicants submit that the claims have utility including, for example, "reducing redundancy within a data model in a database" as recited in, claim 1. Therefore, the rejection of claims 1-11 and 20 under 35 U.S.C. §101 should be withdrawn for this additional reason.

**Rejections under 35 U.S.C. §103(a) of claims 1, 12, and 20**

The Examiner rejected claims 1, 12, and 20 under 35 U.S.C. §103(a) as unpatentable over Schiefer in view of Witkowski. Applicants respectfully traverse this rejection.

The Examiner admits that Schiefer fails to disclose the claim 1 feature of "reordering one or more columns of the table by cardinality of partial keys, wherein the cardinality of a partial key represents a number of distinct values of the partial key." To cure this deficiency in Schiefer, the Examiner relies on Witkowski at paragraphs 516 and 517. However, a careful scrutiny of those paragraphs reveals that Witkowski merely describes reorganizing rows. Specifically, Witkowski states:

[0516] If the likelihood of data repetitions within a single block is low, the expected compression ratio will likely also be fairly low. If the likelihood of such repetitions is higher, the expected compression ratio will be higher. **Thus, rows can be reorganized to increase the likelihood of such repetitions.** One way to do this for a single column table is to order table rows by the column value.

This can be achieved in the Structured Query Language (SQL) by executing the statement "CREATE TABLE AS SELECT" with an order by clause. This type of technique can be also applied to a table where one column has low cardinality and other columns have high cardinalities, by ordering table rows by low cardinality column.

Witkowski, para. 0516 (emphasis added). Accordingly, Witkowski fails to disclose or suggest the following feature of claim 1: "reordering one or more columns of the table by cardinality of partial keys, wherein the cardinality of a partial key represents a number of distinct values of the partial key." Therefore, claim 1 is allowable over Schiefer and Witkowski, whether taken alone or in combination, and the rejection of claim 1 under 35 U.S.C. § 103(a) should be withdrawn.

Claims 12 and 20, although of different scope, include features similar to those noted above with respect to claim 1. For at least the reasons given above, claims 12 and 20 are allowable over Schiefer and Witkowski, whether taken alone or in combination, and the rejection of those claims under 35 U.S.C. § 103(a) should be withdrawn.

#### **Rejections under 35 U.S.C. §103(a) of claims 2-9 and 13-15**

The Examiner rejected claims 2-9 and 13-15 under 35 U.S.C. §103(a) as unpatentable over Schiefer in view of Witkowski and further in view White. Applicants respectfully traverse this rejection.

Claims 2-9 depend from claim 1 and, therefore, include all the features therein including, *inter alia*, "reordering one or more columns of the table by cardinality of partial keys, wherein the cardinality of a partial key represents a number of distinct values of the partial key." For at least the reasons given above with respect to claim 1, neither Schiefer nor Witkowski discloses or suggests the above-noted feature. Although White

discloses an SQL-based database system, White fails to cure the noted deficiencies of Schiefer and Witkowski. Therefore, claim 2-9 are allowable over Schiefer, Witkowski, and White, whether taken alone or in combination, and the rejection of claims 2-9 under 35 U.S.C. § 103(a) should be withdrawn.

Claims 13-15 depend from claim 12 and, therefore, include all the features therein including, *inter alia*, "reordering one or more columns of the table by cardinality of partial keys, wherein the cardinality of a partial key represents a number of distinct values of the partial key." For at least the reasons given above with respect to claims 2-9, claims 13-15 are allowable over Schiefer, Witkowski, and White, whether taken alone or in combination, and the rejection of claims 13-15 under 35 U.S.C. § 103(a) should be withdrawn.

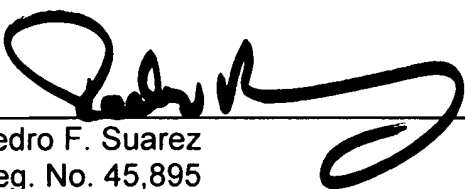
**CONCLUSION**

It is believed that all of the pending claims have been addressed in this paper. However, failure to address a specific rejection, issue or comment, does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above are not intended to be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below. No fee is believed to be due, however, the Commissioner is hereby authorized to charge any fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 34874-083.

Respectfully submitted,

Date: 21 November 2006

  
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